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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/771,832

02/04/2004

Yi-Hua Tsao

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3953

22879 7590 10/29/2007

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INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

SHAH, MANISH S

ART UNIT

PAPER NUMBER

2853

MAIL DATE

DELIVERY MODE

10/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/771,832

Applicant(s)

TSAO, YI-HUA

Examiner

Manish S. Shah

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-11 & 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabalnov (# US 6231350) in view of Leender et al. (# US 5568173).

Kabalnov discloses:

- A method of enhancing color space comprising depositing dye-based ink and charged polymer fixer on a print medium (see Abstract; column: 12, line: 15-40).
- The depositing dye-based ink and fixer further comprises underprinting the fixer on the print medium and then depositing the dye-based ink on the print medium, and then depositing a layer of the fixer over the deposited dye-based ink (column: 13, line: 20-30).
- The print medium comprises plain paper (copy paper) (see Examples).
- The depositing is effected by one-pass print mode, two-pass print mode or four-pass print mode (column: 13, line: 20-30).

- A method of inkjet printing comprising: underprinting fixer fluid on a plain paper print medium in a print zone; depositing dye-based ink over the fixer fluid on the plain paper print medium (column: 13, line: 2-30; see Examples).
- A printing system capable of maintaining or enhancing chroma independent of increased ink application, the system comprising: plain paper, and pen set configured to apply dye-based ink and charged polymer fixer to the plain paper print medium in the heated print zone (see Examples).

Kabalnov differs from the claim of the present invention is that (1) the print zone having a temperature between about 45 °C. and about 85 °C, more preferably 45 °C and about 55 °C. (2) The applying heat to the print zone prior and after the depositing dye-based ink.

Leender et al. teaches that to get the printed image with high optical density, the ink jet printing method comprising the steps of uniformly heating the receiving material during and/or after the deposition of the ink composition (see Abstract). They also teaches that the print zone having the heating temperature between 40 °C to 160 °C (column: 11, line: 5-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the inkjet recording method of Kabalnov by the aforementioned teaching of Leender et al. in order to have a high optical density printed image.

Kabalnov and Leender et al. didn't disclose clearly that the deposited dye based ink has chroma at least two unit higher than dye based ink deposited on an identical print medium at room temperature. However, chroma is a color of the ink, and the color

of ink varies with the temperature, higher the temperature is darker the color (chroma) of the ink. Therefore, it would have been obvious that the chroma of the dye based ink in the heated region is higher than the chroma of the dye based ink on the identical print medium at room temperature.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/771,832
Art Unit: 2853

Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

10/25/07